

US Serial No. 10/776,648
Amendment and Response dated September 21, 2006
Office Action mailed March 21, 2006

Attorney Docket No. DWNS.62631

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of making a rigid polyurethane foam, comprising mixing a polyisocyanate component with a polyol component in the presence of at least one catalyst for the reaction of a polyol or water with a polyisocyanate and subjecting the mixture to conditions sufficient to cure to form a polyurethane foam, wherein (a) the polyisocyanate component contains an isocyanate-terminated prepolymer made by reacting an excess of an organic polyisocyanate with (i) at least one polyol and (ii) at least one hydroxy-functional acrylate, (b) the polyol component contains an effective amount of a blowing agent and isocyanate-reactive materials that include at least one hydrophobic polyol selected from the group consisting of castor oil, soybean oil, and combinations thereof; ~~and~~ (c) the ratio of isocyanate groups in the polyisocyanate component to the number of isocyanate-reactive groups in the polyol component is less than 1:1; and (d) the polyisocyanate component has a functionality of between about 2.0 and about 4.0.

2. (Original) The invention according to claim 1, wherein the polyurethane foam has a bulk density in the range of about 2 to about 40 pounds per cubic foot.

3. (Original) The invention according to claim 1, wherein the volume ratio of the polyisocyanate component to polyol component is about 1:1.

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4. (Original) The invention according to claim 1, wherein the hydroxy-functional acrylate is a methacrylate.

5. (Original) The invention according to claim 1, wherein at least one polyol in the polyol component contains a tertiary amine group.

6. (Original) The invention according to claim 1, wherein the catalyst includes a reactive amine catalyst.

7. (Original) The invention according to claim 1, wherein the blowing agent is water or a chemical blowing agent that releases CO₂.

8. (Original) The invention according to claim 1, wherein the organic polyisocyanate is MDI or a polymeric MDI.

9. (Original) The invention according to claim 1, wherein the foam is formed into an automotive component.

10. (Currently Amended) A rigid polyurethane foam formed by mixing a polyisocyanate component with a polyol component in the presence of at least one catalyst for the reaction of a polyol or water with a polyisocyanate and subjecting the mixture to conditions sufficient to cure to form a polyurethane foam, wherein (a) the polyisocyanate component contains an isocyanate-terminated prepolymer made by reacting an excess of an organic polyisocyanate with (i) at least one polyol and (ii) at least one hydroxy-functional acrylate, (b)

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the polyol component contains an effective amount of a blowing agent and isocyanate-reactive materials that include at least one hydrophobic polyol selected from the group consisting of castor oil, soybean oil, and combinations thereof; ~~and~~ (c) the ratio of isocyanate groups in the polyisocyanate component to the number of isocyanate-reactive groups in the polyol component is less than 1:1; and (d) the polyisocyanate component has a functionality of between about 2.0 and about 4.0.

11. (Original) The invention according to claim 10, wherein the polyurethane foam has a bulk density in the range of about 2 to about 40 pounds per cubic foot.

12. (Original) The invention according to claim 10, wherein the volume ratio of the polyisocyanate component to polyol component is about 1:1.

13. (Original) The invention according to claim 10, wherein the hydroxy-functional acrylate is a methacrylate.

14. (Original) The invention according to claim 10, wherein at least one polyol in the polyol component contains a tertiary amine group.

15. (Original) The invention according to claim 10, wherein the catalyst includes a reactive amine catalyst.

16. (Original) The invention according to claim 10, wherein the blowing agent is water or a chemical blowing agent that releases CO₂.

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17. (Original) The invention according to claim 10, wherein the organic polyisocyanate is MDI or a polymeric MDI.

18. (Original) The invention according to claim 10, wherein the foam is formed into an automotive component.

19. (Currently Amended) A rigid polyurethane foam formed by mixing a polyisocyanate component with a polyol component in the presence of at least one catalyst for the reaction of a polyol or water with a polyisocyanate and subjecting the mixture to conditions sufficient to cure to form a polyurethane foam having a bulk density in the range of about 2 to about 40 pounds per cubic foot, wherein (a) the polyisocyanate component contains an isocyanate-terminated prepolymer made by reacting an excess of an organic polyisocyanate with (i) at least one polyol and (ii) at least one hydroxy-functional acrylate, (b) the polyol component contains an effective amount of a blowing agent and isocyanate-reactive materials that include at least one hydrophobic polyol selected from the group consisting of castor oil, soybean oil, and combinations thereof; ~~and~~ (c) the ratio of isocyanate groups in the polyisocyanate component to the number of isocyanate-reactive groups in the polyol component is less than 1:1, wherein the volume ratio of the polyisocyanate component to polyol component is about 1:1; and (d) the polyisocyanate component has a functionality of between about 2.0 and about 4.0.

20. (Original) The invention according to claim 19, wherein the hydroxy-functional acrylate is a methacrylate.

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21. (Original) The invention according to claim 19, wherein at least one polyol in the polyol component contains a tertiary amine group.

22. (Original) The invention according to claim 19, wherein the catalyst includes a reactive amine catalyst.

23. (Original) The invention according to claim 19, wherein the blowing agent is water or a chemical blowing agent that releases CO₂.

24. (Original) The invention according to claim 19, wherein the organic polyisocyanate is MDI or a polymeric MDI.

25. (Original) The invention according to claim 19, wherein the foam is formed into an automotive component.

26-47. (Canceled)